I CLAIM:

1. Apparatus for converting a first DC input voltage to a second DC output voltage, said apparatus comprising:

a power transformer having primary and secondary windings, wherein an input alternating current is provided to said primary winding and an output alternating voltage is induced in said secondary winding;

first and second pairs of electronic switches connected in a bridge circuit and coupled to said power transformer, wherein said first and second pairs of switches are conductive in counter phases to accommodate a high output voltage and are conductive in the same phase to accommodate a low output voltage or a no load condition;

a first resonant inductor for recharging the switches' stray and internal capacitance during turn-on and turn-off, wherein said first resonant inductor is connected to an end of said primary winding and to said switches and is responsive to a current in said primary winding for storing energy when a high current is applied to said power transformer primary winding to allow for 0 voltage switching of the switches for a high output voltage load; and

a second inductor and first and second capacitors connected to the DC input voltage and a center tap of said primary winding and responsive to voltage changes at said center tap, wherein said voltage changes produce current in said second inductor, and said second inductor stores energy when a low or 0 output voltage load is applied to said power transformer for recharging the switches' stray and internal capacitance during turn-on and turn-off of said switches to allow for 0 voltage switching of said switches for a low or 0 output voltage or no current condition.

2. The apparatus of claim 1 wherein a first end of said second inductor is connected to a center tap of said primary winding and a second opposed end of said second inductor is connected to said first and second capacitors, and wherein said first and second capacitors are symmetrically coupled to said first and second pairs of electronic switches.

3. The apparatus of claim 2 wherein said first and second capacitors are connected together in series and the second end of said second inductor is connected to a middle point between said first and second capacitors.

4. The apparatus of claim 3 wherein said first capacitor and said second capacitor each store energy and wherein said energy is provided to said second inductor for recharging the stray and internal capacitance of one of said electronic switches in each of said first and second pairs of electronic switches.

5. The apparatus of claim 1 further comprising a diode bridge coupled to said secondary winding for rectifying the output voltage.

6. The apparatus of claim 5 further comprising an inductive/capacitive output network coupled to said diode bridge for filtering the output voltage.

7. The apparatus of claim 1 further comprising a decoupling capacitor connected to the primary winding of said power transformer for blocking a DC component of the output alternating voltage from the primary winding and preventing saturation of an electromagnetic core of said power transformer.

8. The apparatus of claim 7 wherein said decoupling capacitor is connected between the primary winding of said power transformer and said first resonant inductor.

9. The apparatus of claim 1 further comprising a current transformer coupled to the

primary winding of said power transformer and responsive to the first DC input voltage for providing current sensing for a control circuit.

10. Apparatus for converting a first DC input voltage to a second DC output voltage, said apparatus comprising:

a power transformer having primary and secondary windings, wherein an input alternating current is provided to said primary winding and an output alternating voltage is induced in said secondary winding;

first and second pairs of electronic switches connected in a bridge circuit and coupled to said power transformer, wherein said first and second pairs of switches are conductive in counter phases to accommodate a high output voltage load and are conductive in the same phase to accommodate a low output voltage load or a no load condition;

a first resonant inductor for recharging the switches' stray and internal capacitance during turn-on and turn-off, wherein said first resonant inductor is connected to an end of said primary winding and to said switches and is responsive to a current in said primary winding for storing energy when a high current is applied to said power transformer primary winding to allow for 0 voltage switching of the switches for a high output voltage load;

a decoupling capacitor connected between said primary winding and said first resonant inductor for blocking a DC component of the output alternating voltage from the primary winding and preventing saturation of an electromagnetic core of said power transformer; and

a second inductor and first and second capacitors connected to the DC input voltage and to a center tap of primary winding and responsive to voltage changes at said center

tap, wherein said voltage changes produce current in said second inductor and said second inductor stores energy when a low or 0 output voltage load is applied to said power transformer for recharging the switches' stray and internal capacitance during turn-on and turn-off of said switches to allow for 0 voltage switching of said switches for a low or 0 output voltage load or no current condition, and wherein said first and second capacitors are connected together in series and said second inductor is connected between the center tap of said primary winding and a middle point between said first and second capacitors, and wherein said second inductor and first and second capacitors are symmetrically connected to said first and second pairs of electronic switches.